

ANNOTATIONES ZOOLOGICAE JAPONENSES

Volume 56, No. 3—September 1983

---

Published by the Zoological Society of Japan

---

A New *Trechiamma* (Coleoptera, Trechinae) Rediscovered  
after Thirty-seven Years<sup>1)</sup>

With 2 Text-figures

Shun-Ichi UÉNO

Department of Zoology, National Science Museum (Nat. Hist.),  
Shinjuku, Tokyo 160, Japan

**ABSTRACT** A new anophthalmic trechine beetle closely allied to *Trechiamma kosugei* S. UÉNO of the group of *T. oni* is described from an abandoned adit of a gold mine in Central Japan. It was first made known from a stray female found after a flood of a river, and was rediscovered in the mine adit about 8.3 km upstream after a lapse of thirty-seven years.

In the autumn of 1944, a female specimen of an anophthalmic trechine beetle was obtained by Mr. Tsutomu MATSUDA at Takarazuka in Central Japan after a flood of the Muko-gawa River. It was then given to Mr. Masafumi OHKURA and later came to my hands through his courtesy. It was considered to have been carried down from somewhere along the upper courses of the river, but ignorant of the existence of the upper hypogean fauna, we were unable to determine where to look for its original habitats. Consequently, the specimen was set aside for a very long time.

However, the drastic change in the Japanese biospeology made in recent years gave us a new hope of finding out the native place of the beetle. Needless to say, it was the discovery of the upper hypogean fauna, and we set out to pursue our investigation in the hilly areas on either side of the upper stream of the Muko-gawa. This was not an easy task, since the environmental destruction had rapidly spread in the vicinities of Takarazuka during the past twenty years or so, mainly due to development works. Many hills were bulldozed and converted into residential quarters, golf courses and various other facilities. Though we made systematic searches along every branch stream that flowed into the Muko-gawa, all our painstaking efforts were not repaid with the trechine beetle.

Early in the winter of 1981, Messrs. Yoshiaki NISHIKAWA and Akira NOTO

---

1) This study is supported in part by the Grant-in-aid for Scientific Research No. 00434039 from the Ministry of Education, Science and Culture, Japan.

came across the entrance to a forgotten mine adit while looking for some colluvia favourable for upper hypogean animals. Though located near the lower margin of an unfinished building site and under the edge of a golf course, it remained neither closed nor crushed until today. There they took three specimens of a *Trechiana* which perfectly agreed with the stray female. Guided by Mr. NISHIKAWA, I myself paid a visit to the mine adit in the following spring and examined the natural habitat of the beetle.

Thus, the long-expected trechine beetle was at last rediscovered after a lapse of thirty-seven years. This is one of the new achievements in the Japanese biospeology, showing that the subterranean fauna can survive in the depths of earth even if the surface environment is considerably tampered with. The new species will be described in the present paper under the name of *Trechiana expectatus*. The abbreviations employed are the same as those explained in other papers of mine.

*Trechiana* (s. str.) *expectatus* S. UÉNO, sp. nov.

[Japanese name: Mukogawa-mekura-chibigomimushi]

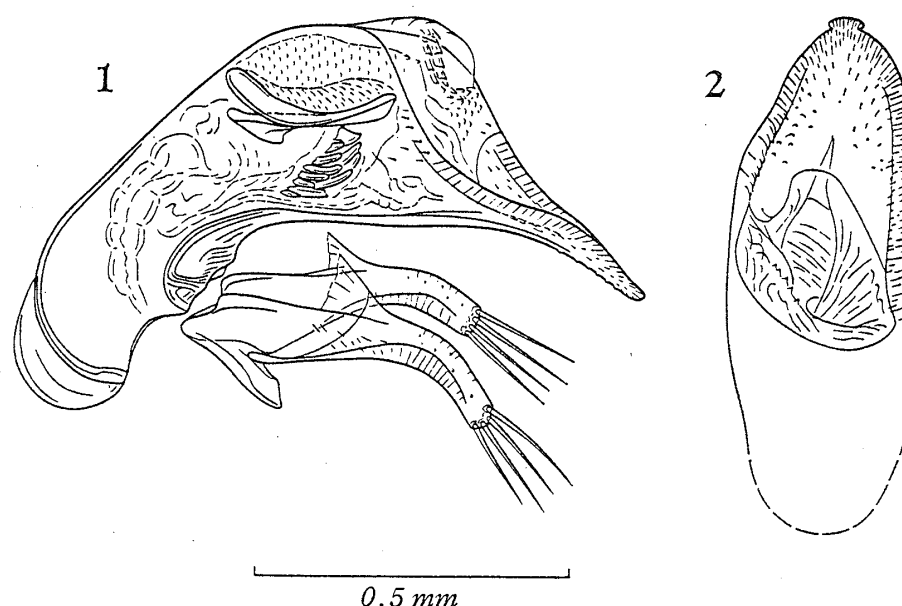
(Figs. 1-2)

Length: 4.80–5.60 mm (from apical margin of clypeus to apices of elytra).

Closely similar to *T. kosugei* S. UÉNO (1955, p. 33, fig. 3) from Magura, but the fore body is larger, the dorsum is less convex, especially on elytra, the elytral striae are obviously deeper and more strongly crenulate, the apical striole joins stria 5, the aedeagus is larger, with more oblique apical orifice and much broader apical lobe bearing much broader terminal tubercle, and the inner sac is armed with an elongate copulatory piece and much smaller teeth-patch at the left side. Readily distinguished from *T. silicicola* S. UÉNO (1981, p. 79, figs. 1-4) from Otogawachi Mine, another close relative of *T. kosugei*, by the presence of postangular seta on pronotum, less oval elytra with salient shoulders and deeper striae, the connection of the apical striole with the 5th elytral stria, and the same genitalic peculiarities as pointed out in comparison with the aedeagus of *T. kosugei*.

Colour as in *T. kosugei* though somewhat darker. Head similar to that of *T. kosugei*, but the antennae are longer, reaching apical third of elytra in ♂. Pronotum less convex than in *T. kosugei*, with shorter basal area; sides less strongly arcuate in front, more deeply sinuate at a level between one-sixth and one-fifth from base, and more widely divergent towards hind angles, which are more sharply produced outwards but hardly backwards; PW/HW 1.41–1.50 (M 1.45), PW/PL 1.07–1.14 (M 1.10), PW/PA 1.41–1.50 (M 1.46), PW/PB 1.35–1.46 (M 1.42), PB/PA 1.00–1.08 (M 1.03).

Elytra ovate, with broader basal part and less oblique prehumeral borders than in *T. kosugei*; EW/PW 1.58–1.70 (M 1.65), EL/EW 1.51–1.59 (M 1.56); surface obviously less convex than in *T. kosugei*, depressed on the disc especially in basal two-thirds; shoulders more salient, with slightly arcuate prehumeral borders; sides almost



Figs. 1-2. Male genitalia of *Trechiama* (s. str.) *expectatus* S. UENO, sp. nov., from Takedao Mine; left lateral view (1), and apical part of aedeagus, dorso-apical view (2).

straight behind shoulders, very feebly arcuate at middle, and subtruncated at apices; striae entire, distinctly crenulate, deeply impressed on the disc, becoming shallower at the side except for the deeply impressed apical part of stria 8; scutellar striole fairly long; apical striole relatively short though moderately curved, either joining or almost joining stria 5; no setiferous dorsal pore on stria 3; preapical pore situated at the apical anastomosis of striae 2 and 3, and more distant from apex than from suture; stria 5 usually with two setiferous dorsal pores at about  $1/5$  and  $1/3-3/5$  (usually about middle) from base respectively; in two of the paratypes ( $\sigma\sigma$ ), a third pore exists on stria 5 of the right elytron, and in another paratype ( $\sigma$ ), a third pore occurs on both the elytra at apical fourth.

Ventral surface and legs as in *T. kosugei*.

Male genital organ similar to those of *T. kosugei* and *T. silicicola*, but relatively large and moderately sclerotized. Aedeagus nearly one-third as long as elytra, short and robust, dilated towards large apical orifice, which is asymmetrical but much less vertical than in the other species, with broad apical lobe bearing a broad tubercle at the extremity; basal part elongate, almost straight, and moderately bent towards the ventral side, with small basal orifice whose sides are distinctly emarginate; sagittal aileron always present, though variable in size to some extent; viewed laterally, apical lobe narrow, ventro-caudally produced, gradually tapering towards the blunt extremity, and minutely tuberculose on the ventral surface; viewed dorsally, apical lobe very broad and ample, much broader than in *T. kosugei* and *T. silicicola*, rather abruptly narrowed at the terminal part, and provided with an unusually broad tu-

bercle at the extremity; ventral margin almost straight at middle in profile. Inner sac armed with an elongate copulatory piece and two patches of sclerotized teeth; copulatory piece about two-sevenths as long as aedeagus, narrow, flattened, asymmetrical and ventrally arcuate, with twofold proximal part, of which the dorsal lobe is dilated to the right; left proximal teeth-patch relatively small, obviously smaller even than that in *T. kosugei*, and lying at about middle of aedeagus; right apical teeth-patch subequal in size to the left proximal one but consisting of much smaller teeth. Styles narrow, with ventrally curved apical parts, each bearing four short setae at apex.

*Type-series.* Holotype: ♂, allotype: ♀, 25-V-1982, S. UÉNO leg. Paratypes: 2 ♂♂, 1 ♀, 5-XII-1981, Y. NISHIKAWA & A. NOTO leg.; 2 ♂♂, 30-IV-1982, Y. NISHIKAWA leg.; 12 ♂♂, 2 ♀♀ (incl. 2 teneral ♂♂), 25-V-1982, S. UÉNO & Y. NISHIKAWA leg. (of these, 2 specimens (♂♀) were found in a baited trap set by Y. NISHIKAWA on 30-IV-1982). All deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

*Type-locality.* Takedao Mine, at Takedao of Nishinomiya-shi in Hyôgo Prefecture, Central Japan.

*Further specimen examined.* 1 ♀, Muko-gawa River, Takarazuka, Hyôgo Pref., 8-X-1944, T. MATSUDA leg. (NSMT).

*Notes.* Belonging to the same complex in the strictest sense as *T. kosugei* and *T. silicicola*, this new species seems closer to the former than to the latter, though its type-locality is geographically nearer to that of the latter. The type-locality of *T. silicicola* is about 45 km northwest of Takedao Mine, while that of *T. kosugei* is about 60 km distant to the north from the same place. Besides, the intervening area between the localities of *T. expectatus* and *T. kosugei* is occupied at least by three distinctive species, *T. ohshimai*, *T. yoshiakii* and *T. notoi* (cf. UÉNO, 1978, pp. 298-301, 1980, pp. 246-250, fig. 69, 1981, pp. 82-85). This is most interesting, since the two closely related species occur at the two ends, northern and southern, of the distributional range of the *kosugei* complex. Perhaps the ancestors of this species-complex may have rather widely spread in the past, but may have been gradually replaced by subsequently differentiated species except for the peripheral parts of their original range. That the *kosugei* complex is regarded as the most primitive component in the group of *T. oni* seems to support this view.

Takedao Mine, the type-locality of this interesting species, consists of an abandoned adit dug into a tuff outcrop on the right bank of the Muko-gawa River only 110 m above sea-level. It is located about 6 km north-northwest in a bee-line, and about 8.3 km upstream along the course of the river, from the spot where the stray specimen was taken in 1944. The entrance to the adit is found several metres above the river water, and the adit is in a fairly good state of preservation, though a collapse of the ceiling took place about a half way from the entrance to the innermost. The trechine specimens first obtained were found in a heap of small rock debris just before the rockfalling, whereas most of the remainings were found from under rotten